

PATENT SPECIFICATION

(11)

1394264

1394264

- (21) Application No. 52650/72 (22) Filed 15 Nov. 1972
 (31) Convention Application No. 2240825 (32) Filed 18 Aug. 1972
 (31) Convention Application No. 2241766 (32) Filed 25 Aug. 1972 in
 (33) Germany (DT)
 (44) Complete Specification published 14 May 1975
 (51) INT CL² B65D 65/10 B65B 11/10//51/14 B65D 61/06
 65/12 65/18



(52) Index at acceptance

B8C 10D2 10D3B2 10F1 10F4 10J1 10T3 10U 15A 17B
 24B4 25B 25D 3B2

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(54) IMPROVEMENTS IN OR RELATING TO SLIDING CLASP
 FASTENERS AND PACKS AS RETAILING UNITS AND A
 PROCESS FOR MANUFACTURING SUCH
 RETAILING UNITS

(71) We, OPTI-HOLDING AG, a Company organized under the laws of Switzerland, of Burgstrasse 24, Glarus, Switzerland, do hereby declare the invention, which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a sliding clasp fastener and its pack as a retailing unit, in which the sliding clasp fastener comprises stringer tapes, rows of interlocking elements attached thereto, and a slider, while the pack is of the elongated shape of a sliding clasp fastener, the pack having a front wall, a rear wall and means for hanging the pack on a selling stand, and to a process for manufacturing such retailing units, i.e., a process for packaging sliding clasp fasteners in this type of pack.

The known means of this type (used in the trade) involves first cutting individual sliding clasp fasteners from the long length of fastener chain that they are usually made in, and then placing them individually in their packs by hand. This is costly, with the result that the majority of sliding clasp fasteners are not packaged individually but simply provided with a hanger and left to hang exposed on the selling stands in retail shops. There is no protection against their becoming shop-soiled by frequent handling and testing. Retailers, nevertheless, prefer that sliding clasp fasteners should be offered for sale in a way such that customers can test them if they so desire. The packs hitherto in common use, of the elongated type, have not allowed testing.

An object of the invention is to provide a pack in which sliding clasp fasteners can be packaged by very simple and even automatic means, so as to form retailing units in which

the fasteners are protected but can still be tested. A further object of the invention is to provide a process whereby the sliding clasp fasteners can be packaged automatically.

According to the present invention, a sliding clasp fastener and its pack as a retailing unit, in which the sliding clasp fastener comprises stringer tapes, rows of interlocking elements and a slider, while the pack is of the elongated shape of a sliding clasp fastener, having a front wall, a rear wall and means for hanging on a selling stand, the front wall of the rack having a longitudinal slit the width of which is approximately the same as that of the interlocked rows of elements in the sliding clasp fastener it contains and the sliding clasp fastener being secured in the pack with the rows of interlocking elements exposed.

The sliding clasp fastener can be secured in the pack in various ways. Thus if the pack is made from a synthetic thermoplastic foil, it is preferred that the sliding clasp fastener is secured in the pack by a sealing seam at the top and another at the bottom of the pack. The longitudinal slit in the retailing unit of the invention, viz. The pack in which the sliding clasp fastener is secured, exposes the latter for the usual slider operation test. Moreover, the customer for a sliding clasp fastener can obtain a direct impression of his intended purchase, undistorted by any packaging material.

The longitudinal slit provides a very simple means of inserting the sliding clasp fastener in its pack. Thus, according to another aspect of the invention a process for manufacturing a retailing unit as defined according to the invention above comprises feeding an endless strip of packaging material parallel to and underneath a leading end portion of a length of sliding clasp fastener chain as hereinafter

defined, advancing the length of chain continuously or intermittently, folding both margins of a leading end portion of the strip of packaging material over said leading end portion of fastener chain leaving the longitudinal slit, the folds and the margins being fixed in position, and the leading end portions of chain and packaging material being simultaneously parted from the remainder of chain and packaging material by a parting process to form the fastener and its pack, means being provided for hanging the unit on a selling stand and for securing the fastener within the pack. It should be emphasised that the term "length of sliding clasp fastener chain" refers to a continuously produced length of chain for making a plurality of fasteners in succession. In order to fold the margins over by simple means and produce a well-defined and straight fold, it is preferred to provide the strip of packaging material with pre-formed markings to denote the position of the required folds (during or before the packaging process), which markings may be applied by grooving, punching or the like. The folds may be single or double, depending in the latter case on the thickness of the stringer tapes. The folded margins can be held in position by a wide variety of means, including for example staples. One particularly advantageous procedure applicable to synthetic thermo-plastic packaging materials, notably stretched synthetic thermoplastic foils, is that the margins folded over the stringer tapes may be fixed thermally by the application of heat and pressure. If this procedure is adopted, it is further possible when separating the leading end portions of chain and strip from the remainder to seal together the margins of the packaging material, the stringer tapes and the part of the strip of packaging material that forms the rear wall of the pack. In other words, the separating tool used is capable of leaving the cut edges sealed, i.e., of forming a bond between the various components named above which can nevertheless readily be broken by tearing the pack to extricate the sliding clasp fastener. It is for this reason that the term "seal" is used rather than "weld", which implies a true and complete joint which cannot readily be broken. Whatever means are adopted to part the leading end portions, it is always possible by using the parting tools themselves or separate tools working in conjunction with them to provide the packaging material or the pack with additional punchings so that they can be fitted with hangers.

The longitudinal slit makes it an easy matter to insert the sliding clasp fasteners in the packs, and directly facilitates automatic packaging. It is particularly advantageous that the packaging sequence can be integrated into the normal sequence of continuous sliding clasp fastener manufacture since the length of

sliding clasp fastener chain can be provided with a continuous covering of packaging material without reference to the length of the individual fasteners, and the pack parting stage can be superimposed on the parting of the fasteners. A device for carrying out the process of the invention can easily be attached for example beyond the automatic slider assembly machine or an automatic inspection unit. The packs can be formed with simple tools, such as rollers, rolls and the like. The preferred parting equipment is the known ultrasonic unit, which usually automatically effects the sealing action referred to above.

One embodiment of the invention will now be described in greater detail with reference to the accompanying schematic drawings, in which:—

Figure 1 illustrates the process of the invention;

Figure 2 is a perspective view of a sliding clasp fastener packaged by the process of the invention;

Figure 3 is a section on the line A—A of Figure 2, to a substantially larger scale than Figure 1; and

Figure 4 is a plan view of Figure 2, in the direction of the arrow B, after removing the sliding clasp fastener.

The process illustrated in Figure 1 is intended for packaging sliding clasp fasteners 1, each of which comprises stringer tapes 2, rows 3 of interlocking elements attached thereto, top stops 4, bottom stops 5 and a slider 6, the fasteners being made from a length of sliding clasp fastener chain 7 in succession. Each sliding clasp fastener 1 is enveloped in an elongated flat pack 8 of the same shape, with a longitudinal slit 10 in its front wall 9 of approximately the same width as the interlocked rows 3 of elements in the fastener. The procedure (shown in the top section of Figure 1) is to feed an endless strip 12 of the packaging material parallel to and underneath the leading end position of length of chain 7 in the direction of arrow 11, which chain advances continuously or intermittently, to fold both the margins 13 of the strip 12 of packaging material in over the stringer tapes 2 on the sliding clasp fastener 1, producing the folds 14, leaving the longitudinal slit 10 referred to above, and to secure the margins 13 in this position. The packaging process is carried out on the leading end portion of chain before the individual sliding clasp fasteners 1 have been severed from the chain 7. In consequence, when the sliding clasp fasteners 1 are finally parted in succession into individual fasteners, for example by a parting process at station 15, the packs are also simultaneously parted and are automatically made to the lengths of the sliding clasp fastener 1 they contain.

It is indicated in the enlarged view of Figure 3 that the strip 12 of packaging

material can be provided with the formations 16 to define the folds 14, before or during the packaging sequence. The formation 16 can be made by grooving or punching. If the packaging material consists of a strip 12 of synthetic thermoplastic, particularly stretched synthetic thermoplastic foil, the margins 13 folded over the stringer tapes 2 can be thermally fixed at a station 17 by tools 18 adapted to apply heat and pressure. On parting at the station 15 already referred to, the margins 13 of the strip 12 of packaging material, the stringer tapes 2 and the parts of the packaging material forming the rear wall 19 are ealed together as part of the parting process. As a further part of the same process, the parting tools 20 or separate tools form additional punchings 21 to provide a hanger 23. Details of the pack 8 plus the sliding clasp fastener 1 as a retailing unit, as made by the process of the invention, are illustrated in Figures 3 and 4. The finished pack 8 is basically in the flat elongated shape of the sliding clasp fastener 1, having a front wall 9 and a rear wall 19, together with the means 23 for hanging on a selling stand or the like. In the front wall 9 of the pack 8 there is the longitudinal slit 10 already referred to, of approximately the same width as the interlocked rows 3 of elements in the contained sliding clasp fastener. The slit 10 is wide enough to allow operation of the slider 6. The means 23 for hanging on a selling stand or the like is located above the rows 3 of interlocking elements. In the embodiment shown, the ends 22 of the stringer tapes 2 project beyond the start portion 4. The means 23 for hanging is located here, in the gap between the projecting stringer tape ends 22. Figure 4 shows a preferred construction for the means 23. It shows that the means 23 for hanging on a selling stand consists of a hole or punching 21 in the rear wall 19 of the pack 8, having an entry slit 24 running obliquely to the longitudinal axis of the pack. The diameter of the hole 21 corresponds to the hooks on the selling stand or the like. The front wall 9 of the pack 8 thus consists of the two folded front wall sections 9a and 9b, already referred to as having been folded in from the rear wall 19 at the folds 14, and the open longitudinal slit between them. Figure 3 shows that in the vicinity of the folds 14 the rear wall 19 and the front wall sections 9a and 9b function like clamping jaws, so that the stringer tapes 2 on the sliding clasp fastener 1 are firmly held between the front wall sections 9a and 9b and the rear wall 19 in the vicinity of the folds 14. Nevertheless, an additional seal 26 is provided at the parting position 25, in the form of an easily broken bonding between the margins 9a and 9b of the strip 12 of packaging material folded over the stringer tapes 2, the stringer tapes 2, themselves

optionally the rows 3 of interlocking elements and the packaging material forming the rear wall 19. In other words, the seal provides a closure for the pack. The pack is transparent at least in the vicinity of the stringer tapes 2, and can be provided with an advertising imprint 27.

WHAT WE CLAIM IS:—

1. A sliding clasp fastener and its pack as a retailing unit, in which the sliding clasp fastener comprises stringer tapes, rows of interlocking elements and a slider, while the pack is of the elongated shape of a sliding clasp fastener, having a front wall, a rear wall and means for hanging on a selling stand, the front wall of the pack having a longitudinal slit the width of which is approximately the same as that of the interlocked rows of elements in the sliding clasp fastener it contains and the sliding clasp fastener being secured in the pack with the rows of interlocking elements exposed.
2. A sliding clasp fastener and its pack as a retailing unit as in Claim 1, wherein the pack is made from a synthetic thermoplastic foil, the sliding clasp fastener being secured in the pack by sealing seams located at the top and bottom of the pack.
3. A process for manufacturing a retailing unit as in Claims 1 and 2, comprising feeding an endless strip of packaging material parallel to and underneath a leading end portion of a length of sliding clasp fastener chain as hereinbefore defined, the length of chain advancing continuously or intermittently, folding both margins of a leading end portion of the strip of packaging material over said leading end portion of fastener chain leaving the longitudinal slit, the folds and the margins being fixed in position, and the leading end portions of chain and strip of packaging material being simultaneously parted from the remainder of chain and packaging material by a parting process to form the fastener and its pack, means being provided for hanging the unit on a selling stand and securing the fastener within the pack.
4. A process as in Claim 3, wherein the strip of packaging material is provided with the pre-formed marking to denote and pre-form the required folds.
5. A process as in Claim 3 or Claim 4, wherein the strip of packaging material is of stretched synthetic thermoplastic foil, the margins of the strip of packaging material being folded over the stringer tapes and fixed thermally by the application of heat and pressure.
6. A process as in Claim 5, wherein when parting the leading end portion of chain and strip from the remainder, the margins of the packaging material, the stringer tapes and the part of the strip of packaging material that



material can be provided with the formations 16 to define the folds 14, before or during the packaging sequence. The formation 16 can be made by grooving or punching. If the packaging material consists of a strip 12 of synthetic thermoplastic, particularly stretched synthetic thermoplastic foil, the margins 13 folded over the stringer tapes 2 can be thermally fixed at a station 17 by tools 18 adapted to apply heat and pressure. On parting at the station 15 already referred to, the margins 13 of the strip 12 of packaging material, the stringer tapes 2 and the parts of the packaging material forming the rear wall 19 are ealed together as part of the parting process. As a further part of the same process, the parting tools 20 or separate tools form additional punchings 21 to provide a hanger 23. Details of the pack 8 plus the sliding clasp fastener 1 as a retailing unit, as made by the process of the invention, are illustrated in Figures 3 and 4. The finished pack 8 is basically in the flat elongated shape of the sliding clasp fastener 1, having a front wall 9 and a rear wall 19, together with the means 23 for hanging on a selling stand or the like. In the front wall 9 of the pack 8 there is the longitudinal slit 10 already referred to, of approximately the same width as the interlocked rows 3 of elements in the contained sliding clasp fastener. The slit 10 is wide enough to allow operation of the slider 6. The means 23 for hanging on a selling stand or the like is located above the rows 3 of interlocking elements. In the embodiment shown, the ends 22 of the stringer tapes 2 project beyond the start portion 4. The means 23 for hanging is located here, in the gap between the projecting stringer tape ends 22. Figure 4 shows a preferred construction for the means 23. It shows that the means 23 for hanging on a selling stand consists of a hole or punching 21 in the rear wall 19 of the pack 8, having an entry slit 24 running obliquely to the longitudinal axis of the pack. The diameter of the hole 21 corresponds to the hooks on the selling stand or the like. The front wall 9 of the pack 8 thus consists of the two folded front wall sections 9a and 9b, already referred to as having been folded in from the rear wall 19 at the folds 14, and the open longitudinal slit between them. Figure 3 shows that in the vicinity of the folds 14 the rear wall 19 and the front wall sections 9a and 9b function like clamping jaws, so that the stringer tapes 2 on the sliding clasp fastener 1 are firmly held between the front wall sections 9a and 9b and the rear wall 19 in the vicinity of the folds 14. Nevertheless, an additional seal 26 is provided at the parting position 25, in the form of an easily broken bonding between the margins 9a and 9b of the strip 12 of packaging material folded over the stringer tapes 2, the stringer tapes 2, themselves

optionally the rows 3 of interlocking elements and the packaging material forming the rear wall 19. In other words, the seal provides a closure for the pack. The pack is transparent at least in the vicinity of the stringer tapes 2, and can be provided with an advertising imprint 27.

WHAT WE CLAIM IS:—

1. A sliding clasp fastener and its pack as a retailing unit, in which the sliding clasp fastener comprises stringer tapes, rows of interlocking elements and a slider, while the pack is of the elongated shape of a sliding clasp fastener, having a front wall, a rear wall and means for hanging on a selling stand, the front wall of the pack having a longitudinal slit the width of which is approximately the same as that of the interlocked rows of elements in the sliding clasp fastener it contains and the sliding clasp fastener being secured in the pack with the rows of interlocking elements exposed.
2. A sliding clasp fastener and its pack as a retailing unit as in Claim 1, wherein the pack is made from a synthetic thermoplastic foil, the sliding clasp fastener being secured in the pack by sealing seams located at the top and bottom of the pack.
3. A process for manufacturing a retailing unit as in Claims 1 and 2, comprising feeding an endless strip of packaging material parallel to and underneath a leading end portion of a length of sliding clasp fastener chain as hereinbefore defined, the length of chain advancing continuously or intermittently, folding both margins of a leading end portion of the strip of packaging material over said leading end portion of fastener chain leaving the longitudinal slit, the folds and the margins being fixed in position, and the leading end portions of chain and strip of packaging material being simultaneously parted from the remainder of chain and packaging material by a parting process to form the fastener and its pack, means being provided for hanging the unit on a selling stand and securing the fastener within the pack.
4. A process as in Claim 3, wherein the strip of packaging material is provided with the pre-formed marking to denote and preform the required folds.
5. A process as in Claim 3 or Claim 4, wherein the strip of packaging material is of stretched synthetic thermoplastic foil, the margins of the strip of packaging material being folded over the stringer tapes and fixed thermally by the application of heat and pressure.
6. A process as in Claim 5, wherein when parting the leading end portion of chain and strip from the remainder, the margins of the packaging material, the stringer tapes and the part of the strip of packaging material that

forms the rear wall of the pack are sealed together.

7. A sliding clasp fastener and its pack as a retailing unit substantially as hereinbefore described with reference to the accompanying drawings.

8. A process for manufacturing the retail-

ing unit of Claim 1, substantially as hereinbefore described with reference to the accompanying drawings.

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Printed for Her Majesty's Stationery Office, by the Courier Press, Leamington Spa, 1975.
Published by The Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.



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